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EP 0190007 A US 4858257 A US 4733421 A

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(54) "Back washing unit"

(57) A back washing unit comprises a mount 14, 25 for fixing to a wall, an elongate roller (e.g. with brush) 10 mounted on a support 12 slidable vertically on the mount and a motor for rotating the roller around its axis. The motor is mounted inside a housing 20 together with a plurality of re-chargeable batteries, the housing being removable so that it can be plugged directly into a mains outlet to recharge the batteries.

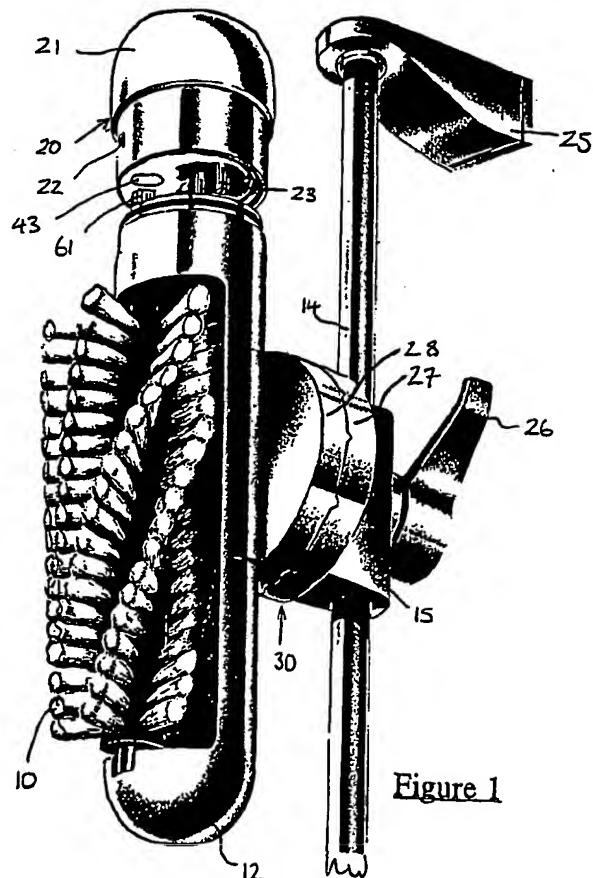


Figure 1

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1990.

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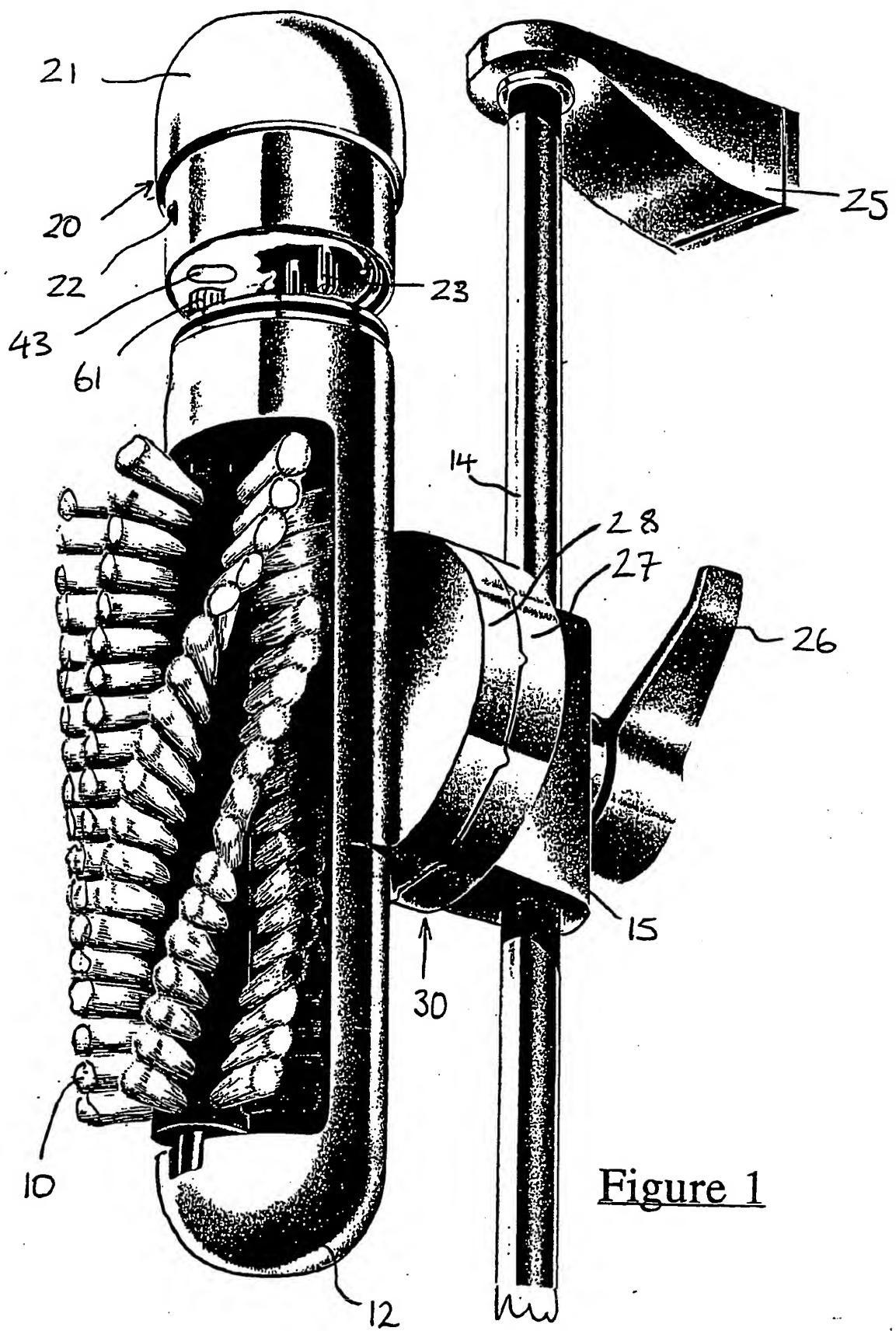


Figure 1

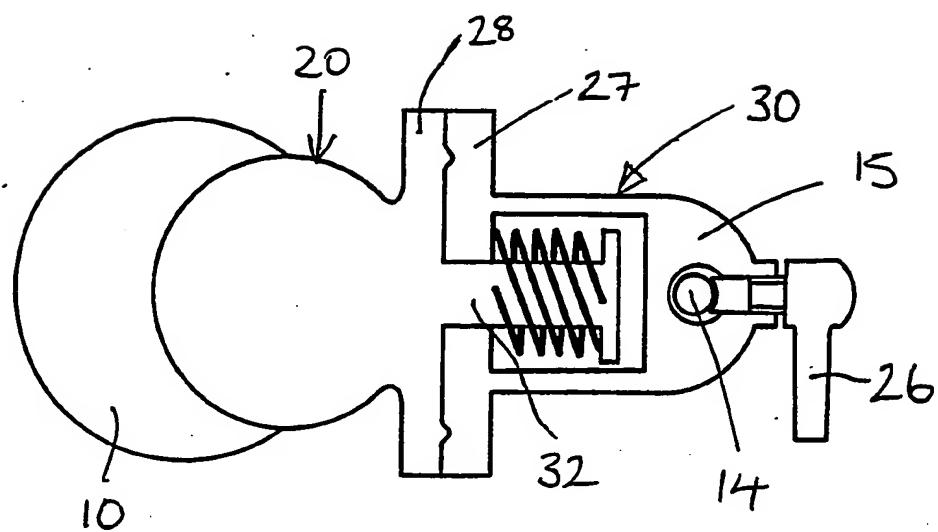
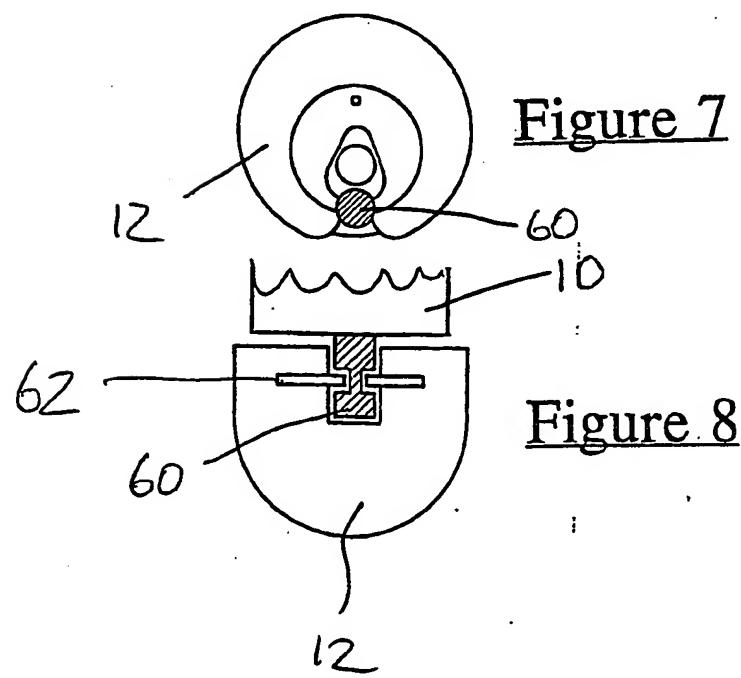


Figure 2



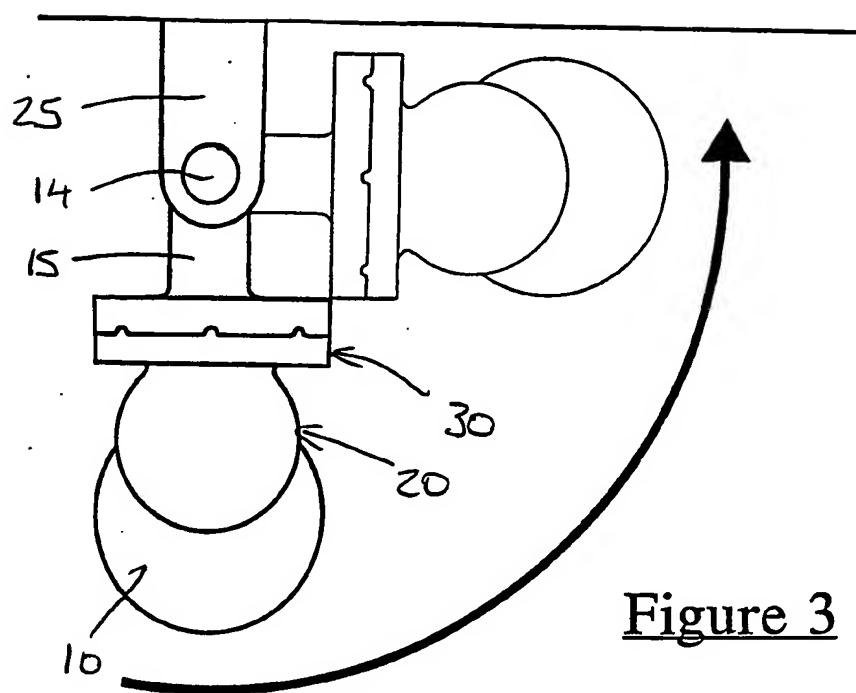


Figure 3

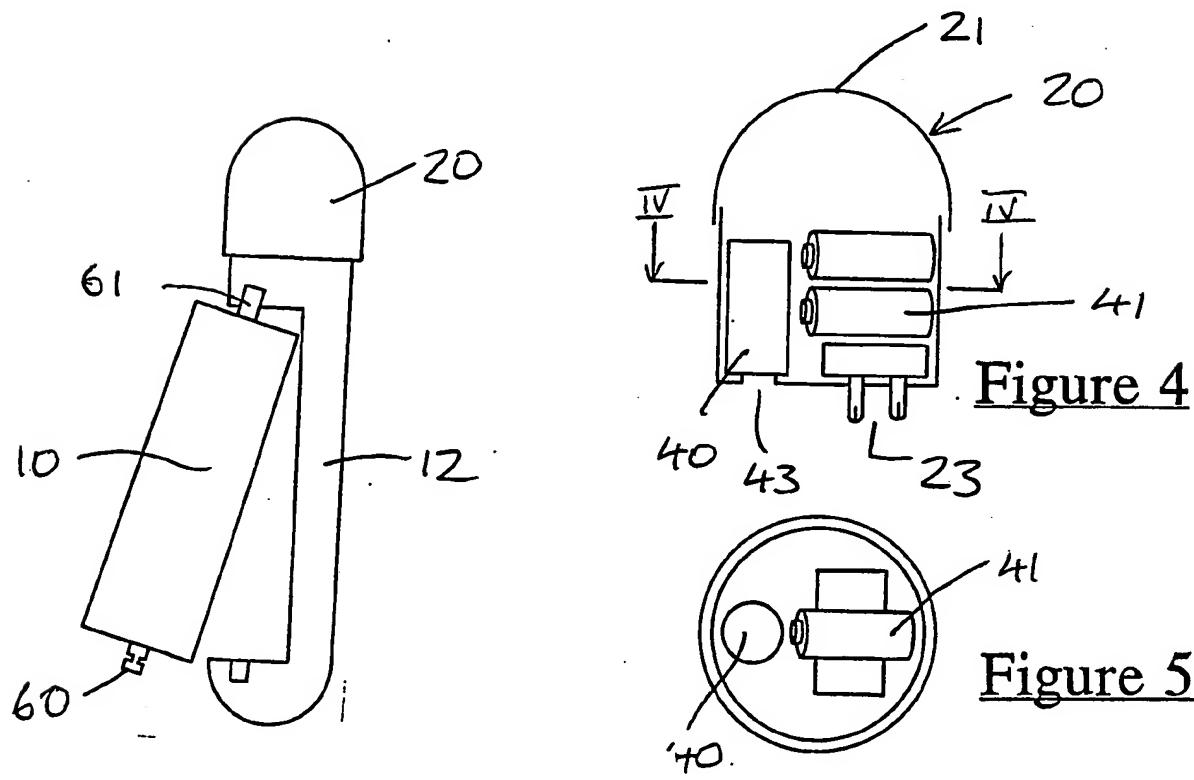


Figure 6

Figure 5

Figure 4

Back Washing Unit

This invention relates to a unit for washing the upper and/or lower parts of the user's back.

Persons who have physical disabilities often have difficulty in washing their own backs. I have now devised a unit which overcomes these difficulties for many disabled people, but which also forms a luxury product attractive to others.

In accordance with this invention there is provided a back washing unit which comprises a mount for fixing to a wall, 10 a roller rotatably supported by the mount and drive means for rotating the roller around its axis.

Preferably the roller is an elongate roller. Preferably the roller is turnable perpendicular to its longitudinal axis so that it can be oriented at any angle e.g. 15 horizontally or vertically.

Preferably the drive means comprises an electric motor. Preferably this electric motor is switched on and off by a manual switch disposed on the unit, but alternatively a proximity switch may be used.

20 Preferably the electric motor is battery operated. Preferably the unit comprises re-chargeable batteries. Preferably the unit comprises a housing containing the rechargeable batteries, which housing can be disconnected from the roller in order to re-charge the batteries. An electrical 25 connector is preferably provided on the housing for connecting electrical power to the batteries during re-charging. Preferably the motor is mounted inside the housing, the drive shaft of the motor being separable from the roller.

Preferably the roller can be adjusted for height. For example the roller may be rotatably mounted to a support which is slidably vertically on the mount which is fixed to the wall.

Preferably the roller includes one or more brushing elements, for example a plurality of elongate brushes which are mounted helically around the roller. Preferably the roller includes a compartment for filling with liquid soap, with passageways extending from this compartment to the brushing element.

An embodiment of this invention will now be described by way of example only and with reference to the accompanying drawings, in which:

FIGURE 1 is a perspective view of a back washing unit
5 in accordance with this invention;

FIGURE 2 is a sectional view through the clamps of the backwashing unit;

FIGURE 3 is a plan view to illustrate the position of the roller of the unit when in use and when not in use;

10 FIGURE 4 is a schematic sectional view through the casing of the backwashing unit;

FIGURE 5 is a schematic sectional view along the line IV - IV of Figure 4;

15 FIGURE 6 is a side view schematically illustrating the manner in which the roller is disengaged from the support for filling with liquid soap;

FIGURE 7 is a plan view of the base of the support; and

FIGURE 8 is a front view of the base of the support.

Referring to the Figure 1 of the drawings, there is
20 shown a back washing unit which comprises an elongate roller 10 mounted to a support 12 for rotating around the longitudinal axis of the roller. The support 12 is slidable vertically on an elongate mount which is fixed to a wall, for example at the end of a bath or a side wall of a shower cubicle. Preferably
25 the unit is fixed to the wall adjacent a shower head. The mount comprises, in the examples shown, a tubular rod 14 on which the support 12 is slidable, and brackets e.g. 25 engaged to the top and bottom of the tubular rod 14 and fixed to the wall. The support 12 is mounted to the tubular rod 14 by means
30 of a clamp 30.

Referring to Figure 2 of the drawings, the clamp 30 is of the pull-and-twist type and comprises two discs 27, 28 which are rotatably interconnected via a spring loaded shaft 32. The two discs 27, 28 are keyed to each other so that they interlock
35 at 30° intervals. One of the discs 28 is secured to the rear of the support 12 and the other disc 27 is secured to an element 15 slidably mounted on the rod 14. A screw clamp 20 can be tightened to hold the support 12 at the required height

on the mount. When the unit is not in use, it can be turned on the mount to lie against the wall, as shown in Figure 3. The upper end of the support 12 includes a housing 20 which encloses an insulated electric motor 40 which drives the roller 10. The motor is turned on and off by a push-button cap 20 on the top of the unit.

Figures 4 and 5 of the drawings show the housing 20 of the unit, the housing 20 being detachable from the support 12 and roller 10. The electric motor 40 is mounted inside the housing 20 together with a plurality of rechargeable batteries e.g. 41. An electrical connector 43 is disposed on the underside of the housing 20 for connecting a recharging current to the batteries. To recharge the batteries the housing 20 is disconnected from the unit and plugged directly into a mains outlet, e.g. a shaver socket such as commonly provided in a bathroom. An LED indicator 22 provides an indication that charging is in progress. The LED 22 may be arranged to extinguish when charging is complete. An aperture 43 is formed in the underside of the housing 20, through which the drive shaft of the motor 40 connects to a splined spindle 61 on the roller 10.

The roller 10 includes at least one set of brushes on its outer surface, preferably a plurality of elongate brushing elements which run helically around the roller. These brushing elements may be engaged in grooves in the roller so that they can be removed to be washed and if necessary replaced. The roller is hollow for filling with liquid soap, and includes passageways extending from its hollow interior to the roots of the brush bristles. Figure 6, 7 and 8 show the manner in which the roller 10 is removed for refilling: thus a spindle 60 at the lower end of the roller 10 is disengaged from a spring clip in the base of the support 12, then the lower end of the roller 10 is swung outwards so that the splined spindle 61 at the top of the roller 10 can be lowered out of engagement with the drive shaft of the electric motor 40. The top of the roller 10 can then be removed for refilling with the liquid soap, before the roller is re-engaged.

An alternative roller may have a covering of sponge material instead of brushes. The unit may comprise two or more

different rollers which can replace one another at the user's will.

It will be appreciated that the washing unit is easy and effective to use for washing the upper and/or lower parts 5 of one's back.

claims

1. A back washing unit comprising a mount for fixing to a wall, a roller rotatably supported by the mount and drive means for rotating the roller around its axis.
- 5 2. A back washing unit as claimed in claim 1, in which the roller is elongate.
3. A back washing unit as claimed in claim 2, in which the roller is turnable perpendicular to its longitudinal axis.
4. A back washing unit as claimed in any preceding claim,
10 in which the drive means comprises an electric motor.
5. A back washing unit as claimed in claim 4, comprising a manual switch for switching the motor on and off.
6. A back washing unit as claimed in claim 4, comprising a proximity switch for switching the motor on and off.
- 15 7. A back washing unit as claimed in any one of claims 4 to 7, in which the electric motor is battery operated.
8. A back washing unit as claimed in claim 7, comprising re-chargeable batteries for the motor.
9. A back washing unit as claimed in claim 8, comprising
20 a housing which contains the re-chargeable batteries and which can be disconnected from the roller in order to re-charge the batteries.
10. A back washing unit as claimed in claim 9, comprising an electrical connector in said housing for connecting
25 electrical power to the batteries during re-charging.
11. A back washing unit as claimed in claims 9 or 10, in which the motor is mounted inside the housing, the drive shaft of the motor being separable from the roller.

12. A back washing unit as claimed in any preceding claim, in which the roller can be adjusted for height.

13. A back washing unit as claimed in any preceding claim, in which the roller includes one or more brushing elements.

5 14. A back washing unit as claimed in claim 13, in which the roller includes a compartment for filling with liquid soap, with passageways extending from this compartment to the brushing element.

15. A back washing unit substantially as herein described
10 with reference to and as shown in the accompanying drawings.

Patents Act 1977
 Examiner's report to the Comptroller under Section 17
 (the Search report)

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 GB 9227163.4

Relevant Technical Fields

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 (ii) Int Cl (Ed.5) A47K 7/04

Search Examiner
 M J Pennell

Date of completion of Search
 26 October 1993

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant following a search in respect of Claims :-
 1-15

(ii)

Categories of documents

X: Document indicating lack of novelty or of inventive step.
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 A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.
 E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.
 &: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages		Relevant to claim(s)
X	GB 2171009 A	(SELFE)	1-4 at least
X	GB 2168895 A	(FLANAGAN)	" "
X	GB 460820	(PERLZON)	" "
X	EP 0190007 A2	(WILLIAMS)	" "
X	US 4858257	(BIVENS)	" "
X	US 4733421	(KUERSTEINDER)	" "

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